

USING START-TO-FINISH BOOKS FOR STUDENTS WITH PHYSICAL IMPAIRMENTS

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ABSTRACT

Students with physical impairments often have difficulties with reading and writing skills. As a result, they are behind when compared to their non-disabled peers. This requires teachers of students with orthopedic impairments to know the obstacles that effect reading and writing instruction for their students. They also need to be able to use modifications, instructional strategies, computer software and assistive technology to meet their student's unique needs. Moreover, they must be able to identify a student's particular challenges in literacy instruction and work collaboratively with other personnel to ascertain that these issues are addressed. The following article discusses the barriers that students with physical impairments have in literacy instruction along with a description of the Start-to-Finish Books and how they can be used to confront these difficulties, as well as be implemented into a language arts curriculum. The Literacy Profile for Students with Physical Impairments, 2nd Edition (Heller, 2003) is also introduced as a way to document student needs in literacy instruction and to facilitate collaboration among personnel to enable the Start-to-Finish Books to be utilized to their fullest extent.

OBSTACLES IN READING AND WRITING

Many factors contribute to literacy difficulties for students with physical impairments. A student may lack the reading skills and life experiences to

read and comprehend information (Berninger & Gans, 1986; Harris, 1982; Koppenhaver et al, 1991; Koppenhaver & Yoder, 1993; Mike, 1987; Pierce & McWilliam, 1993; Smith, Thurston, Light, Parnes & O'Keefe, 1989). There is an added challenge for students with physical and speech impairments who use an Alternative and Augmentative Communication (AAC) device (Fried-Oken, 1988). These students are unable to make comments and ask questions about sounds, words and stories without this vocabulary on their devices. Some students have difficulty following a line of print; others may be unable to manipulate books or access reading and writing materials. Many students with physical impairments tire easily or have a health impairment, which causes school absences or only short periods of academic activity. This results in missing important concepts or opportunities to practice the skills learned. Some may be able to read, but are unable to comprehend it. Others have challenges with writing: spelling, the thought process or the physical act itself. All of these obstacles effect literacy instruction; students with physical impairments need a solution. The Start-to-Finish Books may be the answer.

DESCRIPTION OF THE START-TO-FINISH BOOKS

Don Johnston publishes the Start-to-Finish Books. They are lower-level high interest books on a variety of subjects. The books are written on two different reading levels: the Gold Library is the 2nd–3rd grade reading level and the Blue Library is the 4th–5th grade reading level (Don Johnston, Inc., 2003). The Start-to-Finish Gold Library teaches syntax and grammar of conventional speech and includes high frequency and topic vocabulary. The books demonstrate a limited number of ideas per sentence, which is ideal for struggling beginning readers.

With the Start-to-Finish Blue Library, the syntax and vocabulary are written in more formal, literary English. This vocabulary is more abstract than the Gold Library; more ideas are introduced into longer sentences. There is varied sentence structure with sentence-by-sentence highlighting, whereas the Gold Library highlights word by word. They have auditory supports for keywords (Don Johnston, Inc, 2004). In the computer book, a student can click on a word and it will be said aloud.

With each title there is a paperback book, a computer book and an audio book, as well as a teacher's guide. Teachers can purchase the classroom set or an individual title. The classroom set has five paperback books for each title, two computer books, two audio books, and a teacher's guide. The paperback is in bold print, with illustrations included. The computer book contains

questions and a progress chart after each chapter. The computer book also lists multiple choice and sentence completion questions for each chapter and open-ended questions for the entire book. The teacher's materials include supportive worksheets on punctuation and capitalization skills are also included. The vocabulary, keywords and idioms with definition sentences are in each chapter. Suggestions on how to use the Start-to-Finish Books in the classroom, including a sample lesson plan, are contained in the teacher's guide. Specific skills that can be taught with the Start-to-Finish Books include reading, writing and independent work skills. The topic vocabulary for the entire Start-to-Finish Book is included on the computer book. This vocabulary is also available from the Don Johnston website. It can be downloaded onto Co:Writer 4000 or into the AlphaSmart 3000 with the Co:Writer Applet.

IDENTIFYING STUDENT NEEDS IN READING AND WRITING SKILLS

Before the Start-to-Finish Books (or any type of literacy instruction) can begin the *Literacy Profile for Students With Physical Impairments* (Heller, 2003) should be completed by the teacher of students with orthopedic impairments (OI) in collaboration with the other personnel (i.e. occupational therapist, physical therapist, speech-language-pathologist and the teacher of students with visual impairments) who work with the student. The Literacy Profile is an on-going decision-making tool in which the teacher documents information about different areas that may affect the literacy skills of a particular student (Heller, 2003). By using the Literacy Profile and gaining input from all personnel who work with a student, the Start-to-Finish Books and related materials can be tailored to meet their individual needs.

DESCRIPTION OF THE LITERACY PROFILE FOR STUDENTS WITH PHYSICAL IMPAIRMENTS (HELLER, 2003)

Listed below is a description in outline form of the *Literacy Profile for Students with Physical Impairments*. Additional information and copies of this instrument can be obtained from the Georgia Bureau for Physical and Health Impairments (<http://education.gsu.edu/physicaldis>).

A. General Information

1. Description of the students physical impairment and its effects on instruction

2. Concomitant Disabilities
- B. Physical Efficiency Areas
 1. Fatigue and Endurance Considerations
 2. Positioning
 3. Work Surface Modifications
 4. Range of Motion for Material Placement
- C. Writing Considerations
 1. Pencil or Pen Use
 2. Electronic & Mechanical Tools
 3. Keyboarding Skills & Tools
 4. Spelling
 5. Written Expression
- D. Reading Considerations
 1. Means of reading response
 2. AAC Use
 3. Literacy Program and Level
 4. Book Modifications
 5. Foundational Skills
 6. Word Identification
 7. Comprehension
 8. Reading Rates

DESCRIPTION OF PERSONNEL AND THEIR ROLES INVOLVED IN THE LITERACY PROFILE AND THE MULTIDISCIPLINARY TEAM

A description of the personnel who may be consulted is listed below. This advice is helpful to the OI teacher not only in literacy instruction, but also in all aspects of a student's educational program.

PHYSICAL THERAPIST

The physical therapist (PT) is knowledgeable about optimal physical functioning as it relates to gross motor skills and mobility. He or she may also suggest adaptive devices or equipment for seating and positioning.

OCCUPATIONAL THERAPIST

The occupational therapist (OT) has expertise in fine motor skills, positioning of student's and their materials and computer access. He or she may also recommend adaptive devices for use in the classroom.

TEACHER OF STUDENTS WITH ORTHOPEDIC IMPAIRMENTS

The OI teacher specializes in meeting the learning and physical needs of students with physical disabilities.

TEACHER OF STUDENTS WITH VISUAL IMPAIRMENTS

The teacher of students with visual impairments (VI) is familiar with the educational implications of various eye conditions, as well as appropriate teaching strategies for these students.

SPEECH-LANGUAGE PATHOLOGIST

The speech-language pathologist (SLP) is knowledgeable about speech-language issues. He or she may work with students who use AAC devices or who have other speech-language difficulties.

ASSISTIVE TECHNOLOGY SPECIALIST

The assistive technology (AT) specialist shares information about AT solutions that can help the student access the learning environment and complete academic work.

NURSE

The nurse is an invaluable resource of information about the medical implications of a student's disability and its effect on learning.

USING THE BOOKS TO ADDRESS READING DIFFICULTIES

The Start-to-Finish Books can help with many reading difficulties which students with physical impairments encounter. The following sections and Table 1 contain essential information about these difficulties, the possible solutions and the reading strategies and modifications that have been successfully used to confront these challenges.

LACKS EMERGENT LITERACY SKILLS

Many students with physical impairments lack the emergent literacy skills necessary for reading instruction. Two examples of these skills: the student understanding that reading proceeds from left to right, and being able to turn pages in a book. The Start-to-Finish Books can help teach these skills. One solution is to use the computer book. It highlights word by word from left to right and enables students to turn pages in a book on a computer with the use of a mouse, computer keyboard or single switch. The computer book not only

TABLE I.
Addressing Reading Issues With the Start to Finish Books

Issue(s):	Possible Solutions:	Personnel Involved:
Lacks the literacy skills and life experiences to read and comprehend books	1. Assure that the necessary vocabulary is on the student's AAC device 2. Teach the appropriate vocabulary and concepts 3. Teach emergent literacy skills (i.e. print goes from left to right, turning pages in books) 4. Use computer book	SLP, OI Teacher
Is unable to follow a line of print with finger	1. Use reading window 2. Use colored line prompting strategy 3. Use the computer book 4. Enlarge the font, bold face print, double space text	OI Teacher, VI Teacher, OT
Is unable to manipulate books	1. Use page fluffers 2. Use computer book 3. Use audio book 4. Other modifications to help turn page	OI Teacher, OT, VI Teacher
Fatigues or frequent absenteeism due to physical or health issues	1. Assure that the staff who work with the student have up-to-date medical information 2. Make physical modifications to address fatigue and health issues	OI Teacher, OT, PT, Nurse (and other medical professionals)

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TABLE I.
(Continued)

Issue(s):	Possible Solutions:	Personnel Involved:
Needs adapted or modified books	1. Lower level materials, 2. Change in format (i.e. large print or audio book, book on the computer) 3. Use CCTV	OI Teacher, Vision Teacher
Has poor reading comprehension	1. Teach instructional strategies to reinforce comprehension skills (i.e. KWL Chart) 2. Use comprehension questions included with the books	OI Teacher, SLP

allows the student to turn the pages in a book, but also to understand that print goes from left to right.

LACKS THE LIFE EXPERIENCES TO READ AND COMPREHEND BOOKS

Frequently students with physical impairments have limited broad experiences related to the information written in books. This may be due to the difficulty ambulating to explore interesting items and activities (Blischak, 1995). They also may not know the meaning of written vocabulary. Perhaps the student uses an AAC device and only understands the vocabulary on that device. There may also be speech-language difficulties that require additional instruction in vocabulary development.

The Start-to-Finish Books can be used to help with these challenges. The vocabulary from the story can be taught before reading a chapter. For students who use AAC devices, the vocabulary can be put on their device. The vocabulary words and concepts that the student may lack can be specifically taught. For example: with the word "hurricane," that word could be put on the student's device and then the meaning can be taught. This can also be done with students with other speech-language issues, not only those who use AAC devices.

UNABLE TO FOLLOW A LINE OF PRINT

Some students with physical impairments have difficulties following a line of print. They may be unable to visually track lines or are unable to follow the writing with their fingers. There are several solutions that can be used with the Start-to-Finish Books to help solve this problem: a reading window, the colored line prompting strategy, the computer book and enlarged/bold faced font. A description of a reading window and the colored prompting strategy are included in the section “Suggested Reading Modifications/Strategies.” Some students may be able to track lines if the font size is bigger with bold face type and the text is double spaced. This may enable them to follow with their fingers, or an index card.

UNABLE TO MANIPULATE BOOKS

Often students with physical impairments do not have the fine motor skills to turn pages in books. There are three possible solutions that can be used with the Start-to-Finish Books to overcome this barrier. First, there are page fluffers, which can be added to each page of the print copy of the book. This may make page turning easier. Page Fluffers are described in the section “Reading Strategies/Modifications.” Second, the student can use the computer book and access it with a mouse, keyboard or single switch. Third, the student can also listen to the audio book, where page turning is unnecessary.

FATIGUES EASILY OR MISSES SCHOOL DUE TO PHYSICAL OR HEALTH ISSUES

Some students fatigue easily and are absent from school because of their health. The personnel who work with these students need up-to-date information about their disability and the related health care needs. Modifications are necessary to address fatigue and health issues: limiting the amount of reading and writing, using assistive technology, pairing the student with a peer who can read or write for them and taking rest periods when needed. The Start-to-Finish Books can be helpful for these learners. Students who have difficulty reading for long periods can choose to use the computer book or listen to the audio cassette. Some may also benefit from the print book because the chapters are shorter than regular books.

STUDENT NEEDS ADAPTED OR MODIFIED BOOKS

Frequently students with physical impairments need adapted or modified books. This can be attributed to their physical needs, or an accompanying visual or learning disability. The Start-to-Finish Books can help these students. Some need lower level books. The Start-to-Finish Books can be used

because the books come in various reading levels. Others may need to use a book that is read to them. They can use either the computer or audio book. Others have difficulty reading regular size print. These students may benefit from the print copy of the book because the text is larger than what is found in regular books. If the font size is not big enough, the text and illustrations of the book can be enlarged using a photocopier or using a Closed Circuit Television (CCTV) Set. A description of a CCTV is included in the section "Computer Software/Assistive Technology Solutions Used in Writing." If the student only needs the text enlarged, the teacher can type the text on the computer in the appropriate font size and print it.

DIFFICULTIES WITH READING COMPREHENSION

Reading comprehension is another area of difficulty for students with physical impairments. These problems can be: not understanding what is read, difficulty identifying the facts and main ideas from a reading passage, and problems drawing conclusions from what is read and relating it to what may happen later in a story. Instructional strategies that reinforce comprehension skills can be taught directly. One example is the KWL Chart. This strategy is described in the section "Suggested Reading Modifications/Strategies." The Start-to-Finish Books can also be used to help improve these skills. On the computer book there are questions at the end of each chapter. These can be completed whether or not the story was read on the computer. Also, the multiple choice and sentence completion questions included with the teacher materials can be used.

SUGGESTED READING MODIFICATIONS/STRATEGIES

The following reading modifications and strategies have been used with students with physical impairments to help overcome the difficulties with reading and accessing books. They also work well with the Start-to-Finish Books.

COLORED LINE PROMPTING STRATEGY

The colored line prompting strategy (Heller, 2001) is a modification used with students who are unable to track lines of print with their finger. In this strategy, each word is paired with a 1 inch long colored line under the word that the student is taught to follow. Over time the lines are faded to only include certain words and ultimately only a line or dot immediately before each line of print. These colored lines are placed on a transparency so that it can be used with other reading assignments. This strategy can be effectively

used with the Start-to-Finish Books one of two ways. The print book can be photocopied onto 8-1/2 by 11-inch paper and then the transparency is placed over the text. The text can also be typed on the computer in 18 point font, double-spaced and printed. The transparency is placed over this copy.

READING WINDOW

A reading window is a modification that can help students follow a line of print. It is made with a 4 X 6 index card and cutting a strip out of the middle. A line should also be put on the bottom of the cut out with a black bold line pen. Students are taught to place this card over the line of print and move it along as they read. This helps them focus on individual words, rather than whole sentences. For students with fine motor difficulties, the OT may suggest modifications to the reading window so that it can be used independently. The VI teacher also needs to make sure that the size, font and contrast of the reading materials are appropriate for the student and that the reading window is the right size. Over time the reading window should be faded, so that students learn to track lines independently. This modification can be used with the Start-to-Finish Books several ways by using the print book, photocopying the book, or typing the text into the computer and printing it.

PAGE FLUFFERS

Page fluffers are made of any material that can be placed between pages to help separate them and make turning pages easier. Examples of page fluffers include: paper clips, small squares of Velcro (the smooth side only), or any material that will cling to the page and separate the pages (Georgia Bureau for Physical and Health Impairments, 2004).

Page fluffers can be used with the Start-to-Finish Books several ways. The teacher can take apart the print book and put in page fluffers for each page and put it back together. The book could also be photocopied onto 8-1/2 by 11 inch paper or the text of the book can be typed into the computer and printed. Page fluffers can then be put between each page.

K-W-L CHART

A K-W-L Chart (Ogle, 1986) is a three-step procedure that can help reinforce comprehension skills. In this strategy, students make three columns. In the first column, they write, "What We Know" and then jot down ideas about the topic. In the second column, the students write out, "What We Want to Know" and they fill in that section. In the third column is written, "What We Learned" and they write what they learned. This strategy allows

students to identify prior knowledge, to read for meaning based on the questions they made in the second column and they summarize the information that was learned in the third column. This strategy can be used with each chapter of the Start-to-Finish Books to assess comprehension skills.

ADDRESSING WRITING ISSUES WITH THE START-TO-FINISH BOOKS

Many students with physical impairments have challenges with writing skills. In the following section and in Table 2, these obstacles are discussed as well as how the Start-to-Finish Books can be used to overcome them.

DIFFICULTY COMPLETING WORKSHEETS

Often students with physical impairments have difficulty completing written assignments. Some fatigue during writing tasks; whereas, others have problems with the physical aspect of writing. They may only be able to mark or write a letter and some are unable to write at all. These issues can be addressed with the Start-to-Finish Books. For a student who can mark with a pencil or pen, the multiple choice and sentence completion worksheets can be used. Some need worksheets that are enlarged, in bold face font with additional spacing, or a larger target area to mark their answer. Some may benefit from using a black bold line pen instead of a pencil. This is because pencil lead has a glare and a black bold line pen may be easier to see.

Some students need to complete their written assignments using the computer, a portable keyboard or their AAC device. The multiple-choice, sentence completion and open-ended questions are scannable and can be completed on the computer using form-filling software. Paper Port and Wynn, two examples of form filling software programs, are described in the section “Computer Software/Assistive Technology Solutions Used in Writing.” For students who are unable to write, but who use an AAC device, the multiple choice and sentence completion questions can be used. On the multiple choice worksheets, the student can use the AAC device to indicate the answer. The sentence completion questions have five possible options for an answer, which can be adapted into an ABC format. This is done by assigning a letter to each choice. For example: A for option 1, B for option 2, and so forth. This can be helpful because the student would only have to type a letter, not the whole word. When the student indicates the answer, the teacher or paraprofessional writes down the response. This can be beneficial to many students with writing obstacles, not just those who use AAC.

TABLE 2.
Addressing Writing Issues with the Start-to-Finish Books

Issue(s):	Possible Solutions:	Personnel Involved:
Difficulty completing worksheets, fatigue, writing difficulties	1. Consider font size, spacing and contrast for students who can mark on their worksheets, but may need a larger target area 2. Consider pencil or pen use 3. Introduce form filling software 4. Use AAC device to indicate answer 5. Use a computer or portable keyboard for open-ended questions 6. Check seating and positioning	OI Teacher, OT, AT Specialist, VI Teacher, PT
Unable to write using standard print	1. Consider writing by hand or on computer 2. If writing by hand, consider bold-line pens or enlarged materials 3. Use computer with enlarged font or screen enlargement software 4. Use voice output computer software 5. Use CCTV	OI Teacher, VI Teacher, OT, AT Specialist
Difficulty with spelling and vocabulary skills	Use Co:Writer 4000 and Write:Out Loud	OI Teacher, OT and/or AT Specialist

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TABLE 2.
(Continued)

Issue(s):	Possible Solutions:	Personnel Involved:
Fatigues during prolonged writing activities	1. Use Co:Writer 4000, OI Teacher, OT and/or Write:Out Loud and AlphaSmart 3000 2. Check seating and positioning	AT Specialist, PT

devices. For answering the open-ended questions, students can use the computer or a portable keyboard. AlphaSmart 3000 is an example of a portable keyboard. This device is described in the section “Computer Software and Assistive Technology Solutions Used in Writing.”

DIFFICULTY WRITING USING STANDARD PRINT

Frequently, students with physical impairments have difficulties writing using standard print. This can be attributed to their physical impairment or additional visual or perceptual problems. For students who are able to write by hand they may benefit from enlarged worksheets, black bold-line pens, or the CCTV. Others may require computer software that enlarges the computer screen or reads aloud what is written. Zoomtext is an example of a screen enlargement computer software program. Write:Out Loud is an example of a computer software program that reads aloud what is written. These solutions are described in the section, “Computer Software and Assistive Technology Solutions Used in Writing” and can be used with the Start-to-Finish Books.

DIFFICULTY WITH SPELLING AND VOCABULARY SKILLS

Another area of difficulty in writing for students with physical impairments is spelling and written vocabulary. One possible solution that can be used with the Start-to-Finish Books is to use the computer with word prediction software and a talking word processor. Co:Writer 4000 is an example of word prediction software and Write:Out Loud is an example of a talking word processor. Both of these programs are described with in the section “Computer Software and Assistive Technology Solutions Used in Writing.”

FATIGUES DURING LONGER WRITING ASSIGNMENTS

Many students tire during prolonged writing activities. There are three computer software and assistive technology solutions that can be used with

TABLE 3.
Specific Skills Taught With the Start-to-Finish Books

Skill:	Specific Tasks Taught:
Reading	<ol style="list-style-type: none"> 1. Learn new vocabulary 2. Decode and read words found in the story 3. Read aloud in class 4. Use a reading window, colored line prompting strategy or book on the computer to practice and improve visual tracking skills 5. Answer comprehension and sentence completion questions about each chapter
Writing	<ol style="list-style-type: none"> 1. Learn to use Co:Writer 4000 and Write:Out Loud to complete written assignments 2. Use the open-ended question worksheets (Why? What Happened? And Character), practice writing possible questions and answering them 3. Learn the prewriting process by completing a story map 4. Learn how to edit and proofread by completing the Capitalization and Punctuation worksheets included in the teacher's materials 5. Use the book report template on Draft:Builder along with Co:Writer 4000 and Write:Out Loud to write a book report
Independent Work Skills	<ol style="list-style-type: none"> 1. Complete reading and writing assignments using modifications and assistive technology solutions tailored to individual needs with minimal teacher intervention 2. Learn to use assistive technology devices (i.e. Paper Port, AlphaSmart 3000, Wynn, Co:Writer 4000, Write:Out Loud, Draft:Builder) to complete worksheets and written assignments with minimal assistance

the Start-to-Finish Books to confront this challenge: Co:Writer 4000, AlphaSmart 3000, and Write:Out Loud. In addition to the computer software and assistive technology solutions, it is vital that the OI teacher consult

with the multi-disciplinary team to gain input on any seating and positioning concerns that may be a contributing to the fatigue. This will also help the Start-to-Finish Books to be used more effectively.

DIFFICULTIES WITH OUTLINING, NOTE TAKING AND WRITING A DRAFT

The writing skills of outlining, notetaking and drafting are problem areas for many students with physical impairments. These can be a result of their physical impairment or an accompanying learning disability. There are several computer software solutions used with the Start-to-Finish Books to confront these difficulties: Draft:Builder, Co:Writer 4000, Write:Out Loud, Kidspiration and Inspiration. Draft:Builder, Kidspiration and Inspiration are also included in the section "Computer Software/Assistive Technology Solutions Used in Writing."

COMPUTER SOFTWARE /ASSISTIVE TECHNOLOGY SOLUTIONS USED IN WRITING

The following solutions have been implemented with students with physical impairments in using the Start-to-Finish Books and related materials. It is recommended that before using any of these devices that the OI teacher collaborates with other members of the multi-disciplinary team and consults the student's Literacy Profile to ascertain that it is appropriate.

PAPER PORT

Paper Port is an example of form filling software. A worksheet can be scanned filled out and printed from the computer.

WYNN

WYNN is another example of form filling software. In addition to scanning and completing a worksheet on the computer, it also reads aloud what is written.

CLOSED CIRCUIT TELEVISION SET (CCTV)

A CCTV magnifies written work. It also has controls that a student can manipulate which not only provide increased modification but also differing background and text colors and lines that go under the print to help with reading.

TABLE 4
Daily Activities That Can Be Completed with the Start-to-Finish Books

Day(s):	Activities:
I	<ol style="list-style-type: none"> 1. The teacher introduces the Start-to-Finish Book and explains that they will be required to complete worksheets after each chapter and a written assignment at the end 2. The teacher will show the students the book (or students will look at their copy) and give the title. They will be asked what they think the book will be about 3. The teacher will introduce a KWL chart and have the students fill in the “learned” section as they finish reading each chapter
Days 2–12	<ol style="list-style-type: none"> 1. The teacher will introduce the vocabulary prior to reading the chapter 2. The teacher and students will read the chapters as a group 3. They will complete “what we learned” of the KWL Chart after reading each chapter
Day 13	<ol style="list-style-type: none"> 1. The students are given a written assignment on the book read 2. The teacher will review the requirements of the book report. 3. The teacher and students will discuss the components of a book report 4. The teacher may want to do the Why? What Happened? and Character worksheets included with the teacher materials prior to doing the book report
Day 14	<ol style="list-style-type: none"> 1. The teacher will discuss with the students the writing process-prewriting (story map), drafting, editing, revising, and publishing 2. They will complete a story map to be used as a guide in writing the book report. This will also give the students the opportunity to practice the prewriting process
Day 15	<ol style="list-style-type: none"> 1. Using the computer, the students will write a draft
Day 16	<ol style="list-style-type: none"> 1. The students will learn about the editing process 2. They will complete the Capitalization and Punctuation worksheet included with the teacher materials or similar worksheets to reinforce proofreading and editing skills

TABLE 4**Daily Activities That Can Be Completed with the Start-to-Finish Books**

Day(s): Activities:

Day 17 The students will edit their draft

Day 19 The students will insert pictures and print their final copy (publishing)

ZOOMTEXT

ZoomText is a screen enlargement and voice output computer program that can be used with students with physical impairments. It is particularly helpful for students who need enlarged fonts or other vision enhancements to complete written assignments.

CO:WRITER 4000

Co:Writer 4000 is a word prediction program that can be used with any word processing program to complete written assignments. It eliminates the amount of keystrokes to type a word. The topic vocabulary of each of the Start-to-Finish Books can be downloaded into Co:Writer 4000, which helps students complete written assignments.

WRITE:OUT LOUD

Write:Out Loud is a talking word processor; it can be used with Co:Writer 4000. On each of the Start-to-Finish Books computer book, there is a picture file that can be downloaded into Write:Out Loud, so that pictures can be inserted to accompany written work.

ALPHASMART 3000

The AlphaSmart 3000 is a portable word processor. With the Co:Writer Applet, the topic vocabulary from the Start-to-Finish Books can be downloaded and students can complete written assignments using their AlphaSmart. It can also be used as an alternative keyboard when connected to the computer. This is helpful so that the text, which is written, can be downloaded into Write:Out Loud and illustrations can be inserted.

DRAFTBUILDER

Draft:Builder allows students to write an outline, take notes and write drafts. There are different templates for each of these activities (and several Start-to-Finish Books) that are included with this program or can be downloaded from the Don Johnston website.

KIDSPIRATION

Kidspiration, typically used with students in grades K–5, enables a student to use either pictures or text to complete a story map.

INSPIRATION

Inspiration is similar to Kidspiration in that it allows a student to write a story map. It is geared more for students in sixth-twelfth grades and uses text, rather than pictures. With the Inspiration Applet, students who use an AlphaSmart can complete their outlines on their device and download it to the computer for printing.

USING THE START-TO-FINISH BOOKS IN LANGUAGE ARTS LESSON

The Start-to-Finish Books can help to improve the literacy skills of many different students and be implemented into any language arts curriculum. In the following section and in tables 3 and 4, are ways these books can be used in a language arts curriculum.

READING SKILLS

Most language arts curricula emphasize reading skills. This is also true for the Start-to-Finish Books. There are many reading skills that can be taught including phonics (decoding and word identification), and vocabulary development and reading (fluency and comprehension). With these books, the teacher can use the materials included along with instructional strategies, modifications and assistive technology to individualize reading instruction, which they may be unable to do with other programs.

WRITING SKILLS

Another component of a language arts program is written expression. There are several different writing skills that can be taught with the Start-to-Finish Books: spelling, proofreading (capitalization, punctuation), sentence, paragraph, and essay construction and the writing process. Teachers can use the

computer software and assistive technology solutions discussed in “Computer Software and Assistive Technology Solutions Used in Writing” along with the writing materials included with the Start-to-Finish Books to further improve these skills.

INDEPENDENCE SKILLS

As students with physical impairments advance through school, it is important that they gain the necessary skills to complete academic assignments independently. In the early grades, as students are learning to read and write, they may be introduced to a variety of strategies, modifications and assistive technology. As they grow older, they will decide what works best and use only those solutions. This not only helps them with their literacy skills, but also with self-advocacy and independence skills.

TEACHING ABOUT THE WRITING PROCESS

One of the important lessons that the OI teacher can provide for his or her students in language arts is to teach them about the writing process. Writing is a five-step process: prewriting, drafting, editing, revising and publishing. The Start-to-Finish Books and related materials can help teach these skills and give students with physical impairments the full opportunity to develop these skills.

Prewriting, the first step in the writing process, can be specifically taught or the student can jot down ideas about a topic. One approach that can be used is a story map. This is a learning strategy geared to increase reading comprehension (Idol & Croll, 1987) and it can also help students put their thoughts down on a topic. There are five components of a story map: setting (characters, time and place), problem, goal, action and outcome. The teacher initially models the procedure by pointing out information related to the story map components and having the students write the answer on their outline. After this initial instruction, students can complete the remainder of their organizer with prompting from the teacher. The finished product can be used as a guide in the next stage of writing drafting.

Drafting occurs when the student writes an entire composition on a topic. The Story Map developed in prewriting can be used as an assist with this stage. After the student writes a draft, he or she is now ready for the next step, which is proofreading (or editing).

Editing one's written work is a challenge for many students. As a result, teachers often must give direct instruction in these skills, including spelling,

punctuation and grammar. Teachers can use the materials included with the Start-to-Finish Books on punctuation and capitalization and supplement them with additional materials in spelling and grammar. After instruction and practice, students edit their own work. It is also helpful for students to have a classmate check for errors as well. After the draft is edited, the student is ready to revise the draft.

In the revision process the student corrects the errors identified in the editing process. After that is completed, he or she looks over the revised drafts and if there are no more errors, the work is ready to be published.

When the student corrects previous drafts and revises them into a final copy, this is publishing. This in essence is printing the final copy and inserting illustrations.

CONCLUSION

The Start-to-Finish Books can help solve many obstacles that students with physical impairments encounter in literacy instruction. A multi-disciplinary team approach is important to insure that all of the students needs are addressed and they can use the books and related materials effectively. This will allow students full access and become fulfilled readers and writers.

APPENDIX: THE MATERIALS LISTED IN THIS ARTICLE CAN BE OBTAINED:

Aladdin Sunshine CCTV by Telesensory (<http://www.telesensory.com/imagebank/aladdin/datasheets/aladdinsunshine.pdf>)

AlphaSmart 3000 by AlphaSmart (<http://www.alphasmart.com>)

Co:Writer 4000, Draft:Builder, and the Start-to-Finish Books & Write:Out Loud all by Don Johnston (<http://www.donjohnston.com>)

Kidspiration and Inspiration by Inspiration (<http://www.kidspiration.com>)

Paper Port by Scan Soft (<http://www.scansoft.com>)

Wynn by Freedom Scientific (http://www.freedomscientific.com/LSG/products/wynn_new.asp)

Zoom Text by Ai Squared (<http://www.aisquared.com>)

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